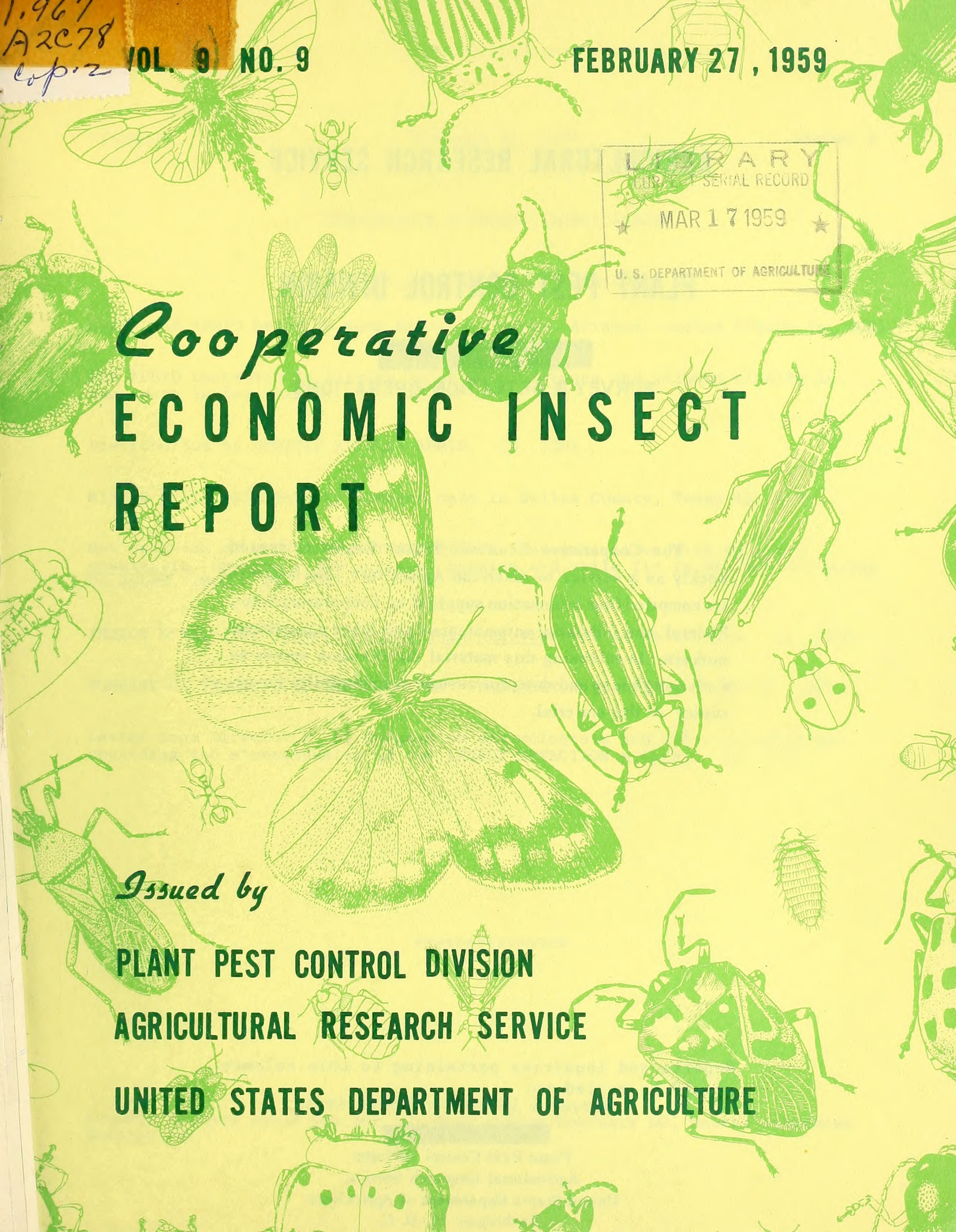
Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

1.967
A2C78
Cop.2

VOL. 9 NO. 9 FEBRUARY 27, 1959

LIBRARY
CURRENT SERIAL RECORD
★ MAR 17 1959 ★
U. S. DEPARTMENT OF AGRICULTURE



Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

PLANT PEST SURVEY
SURVEY & DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:
Survey & Detection Operations
Plant Pest Survey
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

Volume 9 February 27, 1959 Number 9

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

CORN LEAF APHID heavy in some Maricopa County, Arizona, barley fields (p. 129).

PEA APHID increased in Alfalfa in areas of Arizona and injured alfalfa in two areas in New Mexico. (p. 129).

Distribution of SPOTTED ALFALFA APHID. (p. 130).

WINTER GRAIN MITE heavily damaged oats in Dallas County, Texas.(p. 129).

New outbreak of DOUGLAS-FIR TUSSOCK MOTH, in combination with *Galenara consimilis*, damaged 1,500 acres of Douglas and white fir in New Mexico during December, 1958. (p. 132).

INSECT DETECTION: *Cardiocondyla nuda minutior* new to California. (p. 133).

SUMMARY OF INSECT CONDITIONS - 1958 - WASHINGTON (p. 135), IDAHO (p. 139).

Letter from Director E. D. Burgess to entomologists and other cooperators regarding the strengthening of the INSECT DETECTION program. (p. 145).

****

Reports in this issue are for the week ending February 20, unless otherwise designated.

WEATHER OF THE WEEK ENDING FEBRUARY 23

The week was colder than normal east of the Continental Divide and slightly warmer than normal in most sections of the Far West. Precipitation, occurring on 1 to 4 days, was widespread with moderate to heavy amounts in the Pacific States and Pacific Northwest and a few small sections along the Gulf and Atlantic coasts. An extensive cold air mass overspread all areas east of the Rockies in the course of the week. Subzero minima were general from the Great Lakes to the Rockies on the 18th, 19th and 20th, extending southward to southern Nebraska and northern portions of Missouri, Illinois and Indiana. Pukwana and La Delle, South Dakota, reported -33° on the 19th and Pellston, Michigan, -37° on the 20th. In Wisconsin, ice thickness ranges from 15 inches in the south to 30 and 35 inches in the north, and frost penetration in the ground ranges from 3 feet in the south to 6 feet in the northwest. Subzero minima also occurred in inland areas of the Northeast the last few days of the period, and Presque Isle, Maine, reported -31° on the 24th. Frozen water pipes were reported in northern New England where frost penetration in the ground is unusually deep. Freezing occurred in the Southeast over the weekend, with Mobile, Alabama, reporting a low of 29° on the 21st and Jacksonville, Florida, 32° on the 22nd. Ahead of the incoming cold air, temperatures in the lower Great Plains rose to near record high levels for the season on the 17th, when highs ranged in the 80's and 90's in Texas and in the 80's at a few points in Oklahoma. As the cold air moved across the Northeast a deep low pressure disturbance developed off the north Atlantic coast, causing strong winds on the 19th, 20th and 21st with gusts of 40 to 50 m.p.h. in New England. No damage was reported.

Snow fell as far south as northeastern Texas where several stations reported an inch on the ground the morning of the 20th, but this cover all melted during the day. Heavier amounts fell in a belt from Kansas and Nebraska to the northern Greak Lakes, with about a foot reported at points in northeastern Iowa and central Wisconsin. Snow still covers the ground from New England to the Cascades, with depths ranging from 6 inches to over a foot in the Great Lakes region and extreme northern Great Plains. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GREENBUG (Toxoptera graminum) - OKLAHOMA - Scattered and light (less than one per linear foot) in small grain fields in Bryan County. (VanCleave, Vick). Light (0-10 per linear foot) and scattered in barley fields in Hennessy-Enid-Tonkawa area. (Henderson, Thompson). TEXAS - Caused slight damage in fields in Dallas County. (Burriss). Averaged 1-5 per linear foot in fields in upper south plains and panhandle areas. (Daniels). No economic damage observed in fields checked in Rains, Van Zandt, Henderson, Anderson and Freestone Counties. (Hawkins). KANSAS - Not found on wheat in 4 south central counties nor in 2 southeastern counties. (Peters).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - OKLAHOMA - Averaged less than 5 per linear foot in small grain fields in Bryan County, with one isolated field with several hundred per linear foot. Averaged less than 3 per linear foot in Payne County. (VanCleave, Vick).

ENGLISH GRAIN APHID (Macrosiphum granarium) - ARKANSAS - Averaged 5-10 per linear foot in thick oats, 4-6 inches tall. None were found in short, thin oats. (Ark. Ins. Rpt.).

CORN LEAF APHID (Rhopalosiphum maidis) - ARIZONA - Heavy in some fields of barley in northern Maricopa County. A field of branching-stage barley north of Peoria averaged 50 or more per plant. Medium on some grazed barley. (Ariz. Coop. Sur.).

WINTER GRAIN MITE (Penthaleus major) - OKLAHOMA - Scattered populations averaged 25 per linear foot in small grain fields in Bryan County. (VanCleave, Vick). Populations light and scattered in barley fields in the Hennessy-Enid-Tonkawa area. One field, however, in the Enid area averaged over 200 per linear foot. (Henderson, Thompson). TEXAS - Caused heavy damage to oats in Dallas County. (Burriss). No economic damage observed in fields checked in Rains, Van Zandt, Henderson, Anderson and Freestone Counties. (Hawkins).

DATE MITE (Oligonychus pratensis) - KANSAS - Numerous in some wheat fields in Gray and Clark Counties. (DePew).

GRASSHOPPERS - TEXAS - Limited egg survey in 12 panhandle counties showed egg pods to be in good condition with predators and natural enemies few. Survey was limited to cropland areas and road margins. (Russell et al.).

A WIREWORM (Conoderus sp.) - OKLAHOMA - Larvae averaged 1.5 per square foot in a wheat field in the Tonkawa area. (Henderson, Thompson).

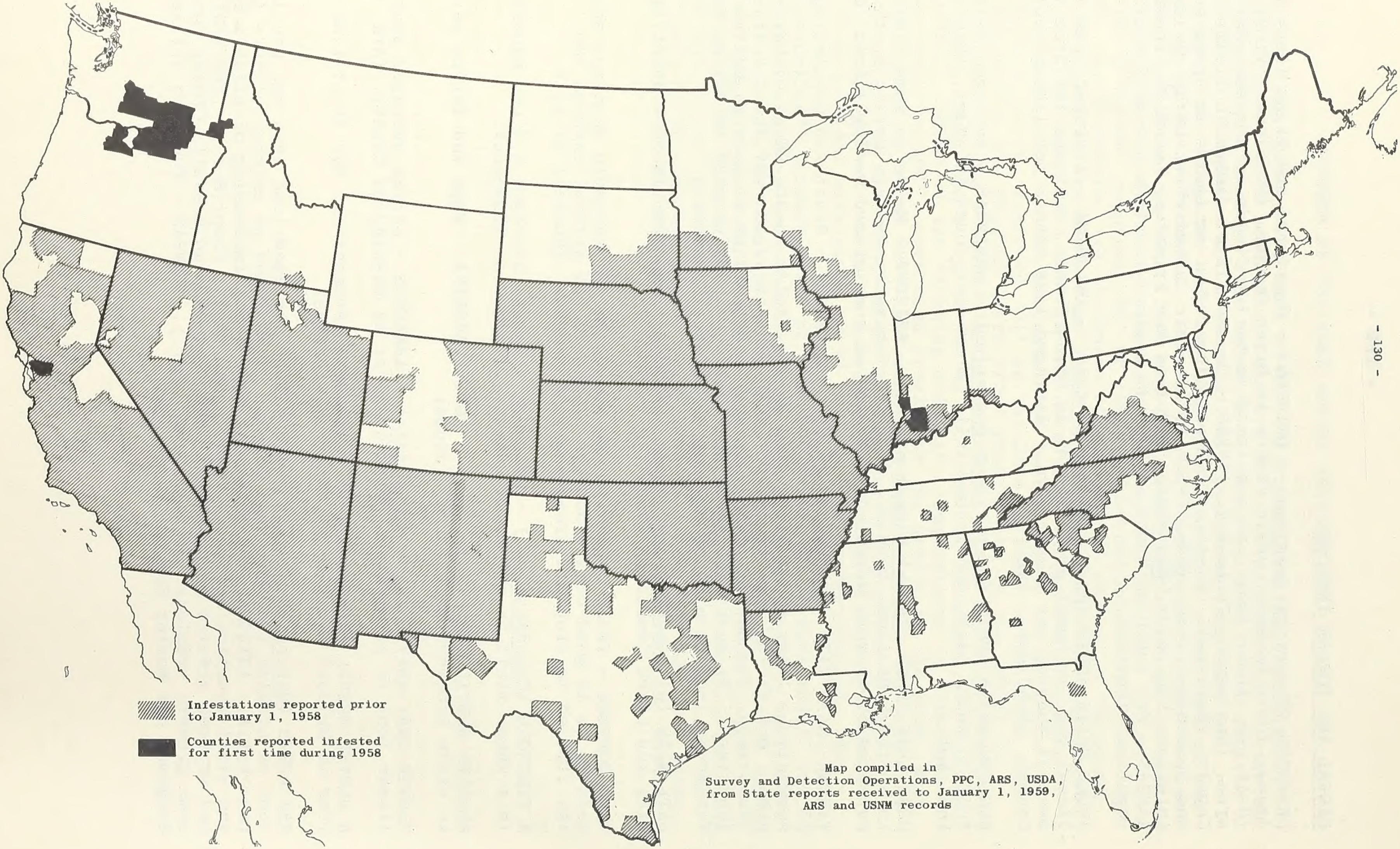
ALFALFA WEEVIL (Hypera postica) - NORTH CAROLINA - Eggs and larvae were found in early December at Raleigh. (Jones).

CLOVER LEAF WEEVIL (Hypera punctata) - ARKANSAS - Larvae averaged nearly one per linear foot in alfalfa and crimson clover in Washington County. (Ark. Ins. Rpt.).

A CLOVER WEEVIL (Hypera meles) - ALABAMA - Present for the first time this year in Bullock and Autauga Counties. (Grimes).

PEA APHID (Macrosiphum pisi) - ARKANSAS - Averaged less than one per linear foot on alfalfa in Washington County. None found on crimson clover. (Ark. Ins. Rpt.). ARIZONA - Infestations medium and increasing on alfalfa in Maricopa and Pinal Counties and in the Yuma area. (Ariz. Coop. Sur.). NEW MEXICO - Heavy and injured alfalfa near Artesia, Eddy County, and Roswell, Chaves County. Some growers treating. (N. M. Coop. Rpt.). KANSAS - Found on alfalfa in Hodgeman and Butler Counties. (Peters).

DISTRIBUTION OF SPOTTED ALFALFA APHID *(THERIOAPHIS MACULATA)*


▨ Infestations reported prior to January 1, 1958
■ Counties reported infested for first time during 1958

Map compiled in
Survey and Detection Operations, PPC, ARS, USDA,
from State reports received to January 1, 1959,
ARS and USNM records

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Populations light, 75 per square foot, in alfalfa 4-5 inches high, in Bryan County. (VanCleave, Vick). Averaged 504 per square foot in some alfalfa fields in Payne County. (Ketner). ARIZONA - Infestation averaged less than one per trifoliate leaf in 10 alfalfa fields sampled in Maricopa County. Control not necessary. Infestations in Yuma area increased. (Ariz. Coop. Sur.). NEW MEXICO - Additional heavy infestations found in Chaves, Eddy and Dona Ana Counties. Some control measures being undertaken. (N. M. Coop. Rpt.). KANSAS - Light populations in alfalfa fields in Barton, Pawnee, Hodgeman, Cowley and Butler Counties. (Peters).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARKANSAS - Only one adult found on alfalfa in Washington County. (Ark. Ins. Rpt.). ARIZONA - Few numbers still appearing in alfalfa as they have been all winter, but there is no sign of a buildup. (Ariz. Coop. Sur.).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - NEW MEXICO - Overwintering larvae abundant in cocoons under bark on trunks of apple trees of many orchards in Bernalillo and Sandoval Counties. (N. M. Coop. Rpt.).

CALIFORNIA PRIONUS (Prionus californicus) - WASHINGTON - Half-grown and mature larvae taken from living cherry tree roots at Clarkston, Asotin County, January 8. (Johansen).

Citrus Insect Situation, Lake Alfred, Florida, Second Week in February - PURPLE SCALE showed a slight increase in activity and an upward trend will prevail through March with some districts showing a high level next month. Activity of FLORIDA RED SCALE is unchanged. The general level will be high for several weeks with considerable variation among districts. CITRUS RED MITE activity increased slightly, with further increase expected. A high level will be reached by March. There was little change in CITRUS RUST MITE activity and it is not expected to deviate from current normal level during remainder of February. (Simanton, Thompson, Johnson, Feb. 16).

TRUCK CROP INSECTS

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - LOUISIANA - Heavy on turnips in East Baton Rouge Parish. (Spink). NORTH CAROLINA - Attacked newly-set lettuce in New Hanover County, February 9. (Baggett, Rabb).

YELLOW-MARGINED LEAF BEETLE (Microtheca ochroloma) - LOUISIANA - Heavy on turnips in East Baton Rouge Parish. (Spink).

DIAMONDBACK MOTH (Plutella maculipennis) - ARIZONA - Light on cabbage. (Ariz. Coop. Sur.).

CABBAGE APHID (Brevicoryne brassicae) - GEORGIA - Light to moderate on cabbage in Colquitt, Brooks and Lowndes Counties. (Johnson).

ONION THRIPS (Thrips tabaci) - ARIZONA - Averaged one per plant on young onions in northern Maricopa County. (Ariz. Coop. Sur.).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (*Epitrix hirtipennis*) - GEORGIA - Light to moderate on tobacco in Brooks, Lowndes, Tattnall, Candler and Emanuel Counties. (Johnson).

VEGETABLE WEEVIL (*Listroderes costirostris obliquus*) - GEORGIA - Light on tobacco in Tift, Colquitt, Brooks, Lowndes, Berrien, Coffee and Emanuel Counties and moderate in Bacon, Appling, Tattnall, Bulloch and Candler Counties. (Johnson).

POTATO TUBERWORM (*Gnorimoschema operculella*) - FLORIDA - Burrowing in leaves of tobacco plants at West Palm Beach, Palm Beach County. (Long, Messec).

YELLOW-STRIPED ARMYWORM (*Prodenia ornithogalli*) - FLORIDA - Larvae reported on tobacco at West Palm Beach, Palm Beach County. (Long, Messec).

A NOCTUID (*Agrotis* sp.) - FLORIDA - Larvae on tobacco plants at West Palm Beach, Palm Beach County. (Long, Messec).

COTTON INSECTS

PINK BOLLWORM (*Pectinophora gossypiella*) - ARIZONA - Inspection of a plowed infested field in the Solomon area of Graham County showed 2 live and 8 dead larvae from seed cotton on top of the ground which was not covered by plowing. (Ariz. Coop. Sur.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

A FIR LOOPER (*Galenara consimilis*) - NEW MEXICO - Defoliated Douglas-fir and white fir on Capitan Mountain, Lincoln National Forest, during December 1958. Defoliation occurred on about 1,500 acres, being heavy on 600. (N. M. Coop. Rpt.).

DOUGLAS-FIR TUSSOCK MOTH (*Hemerocampa pseudotsugata*) - NEW MEXICO - New outbreak found during December, 1958, on Capitan Mountain in same area damaged by a fir looper (*Galenara consimilis*). Separation of damage by these two insects was impossible. (N. M. Coop. Rpt.).

A BARK BEETLE (*Phloesinus cristatus*) - CALIFORNIA - Heavy on cypress trees at Friant Park, Fresno County. (Cal. Coop. Rpt.).

A GALL APHID (*Chermes tsugae*) - VIRGINIA - Caused considerable damage to hemlocks in Richmond area, and appears to be increasing. Also found on Colorado blue spruce. (Freund).

A WHITEFLY (*Trialeurodes bellissima*) - CALIFORNIA - Light on coast live oak at Brentwood, Los Angeles County. (Cal. Coop. Rpt.).

SCALE INSECTS - CALIFORNIA - *Fiorinia fioriniae* heavy on climbing ivy at La Jolla and camellia at Point Loma in San Diego County. *Aspidiotus hederae* locally heavy on acuba leaves at Hamilton City, Glenn County. *Chrysomphalus dictyospermi* collected on orange, rose and loquat at Santa Paula, Ventura County. This is only known locality in State where this scale persistently infests rose and citrus. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

CATTLE GRUBS (*Hypoderma* spp.) - NEW MEXICO - Counts averaged 6-30 per head in many herds of range cattle throughout the State. Specimens collected from 3 southern counties have been identified as *H. lineatum*. (N. M. Coop. Rpt.). UTAH - Numerous in cattle, especially younger animals, in Kane County. (Knowlton). NORTH CAROLINA - None found in 228 head in 3 counties. Not a problem in native cattle in Iredell County and less than one percent infested in 298 head in Cleveland County. (Miller et al.). No infestations found in several herds in Richmond County, except in recently acquired animals. (Goodman).

CATTLE LICE - NEW MEXICO - Many moderate to heavy infestations reported on range cattle in southern counties. (N. M. Coop. Rpt.). UTAH - Becoming problem in cattle herds in several counties. (Knowlton, Lindsey).

DOG FOLLICLE MITE (*Demodex canis*) - NORTH CAROLINA - Seven cases reported to State Veterinarian in January. (Cooperrider).

STORED-PRODUCT INSECTS

BROWN SPIDER BEETLE (*Ptinus clavipes*) - CALIFORNIA - Medium in stored barley at Anderson, Shasta County, and in stored grain at Fresno, Fresno County. (Cal. Coop. Rpt.).

BENEFICIAL INSECTS

PREDATORS - ARKANSAS - *Geocoris punctipes* active February 11, a warm day, in alfalfa, crimson clover and oats. Averaged less than one per 2 linear feet. (Ark. Ins. Rpt.). ARIZONA - Eleven fields sampled in Maricopa and Pinal Counties showed an average of 46 percent of spotted alfalfa aphid population parasitized by *Trioxys utilis*. (Ariz. Coop. Sur.).

MISCELLANEOUS INSECTS

AN ANT (*Cardiocondyla nuda minutior*) - CALIFORNIA - Collected in the State for the first time in San Diego, San Diego County, September 8, 1958. Det. M. R. Smith. (Cal. Coop. Rpt.).

EASTERN SUBTERRANEAN TERMITE (*Reticulitermes flavipes*) - NORTH CAROLINA - Swarmed in a church in Wake County. (Jones, Farrier).

CORRECTION

CEIR 9(8):106 - Distribution of alfalfa weevil should be statewide for Connecticut. Remaining counties were found infested during 1957.

LIGHT TRAP COLLECTIONS

	Pseudaletia unipuncta	Agrotis ypsilon	Feltia subterranea	Prodenia ornithogalli
FLORIDA				
Gainesville 2/11-17		1	4	
Quincy 2/3-9	1		2	
LOUISIANA				
Baton Rouge 2/6-19	73	41	86	53
Franklin 2/5-15	7	6	9	9
SOUTH CAROLINA				
Charleston 2/16-22	3	3	15	

WASHINGTON

Prepared by C. A. Johansen*

Highlights: The winter of 1957-58 was unusually mild, allowing greater populations of certain insects to overwinter. WOOLLY APPLE APHID colonies survived on aerial growth, PEA APHID and GREEN PEACH APHID eggs were hatching in January, PEAR PSYLLA winter adults were active by the first part of February. Above normal rainfall during the spring in western Washington encouraged SLUGS. Unusually high temperatures of summer caused a considerable increase in "southern" pests, some of which are normally minor. VARIEGATED CUTWORM, CABBAGE LOOPER and ALFALFA LOOPER were especially abundant. CORN EARWORM and COLORADO POTATO BEETLE epidemics in the central part of the State were the most serious in many years. CODLING MOTH attained a nearly complete third generation in some areas. SPOTTED ALFALFA APHID and SHALLOT APHID (Myzus ascalonicus) were recorded for the first time in the State.

Cereal and Forage Insects: The first colonies of CLOVER APHID (Anuraphis bakeri) were observed on red clover near Quincy in early June, up to 79 per 10 heads were counted by July and 500 per 10 heads in mid-July. These moderate infestations caused up to 14.5 percent reduction in seed yields estimated at $10,500 in eastern Washington with an additional $2,900 being spent on controls. CLOVER ROOT BORER (Hylastinus obscurus) infested up to 100 percent of the red clover seed fields in Lewis County; up to 5 or 6 larvae per tap root. The estimated loss to clover seed in the western area was $10,100. CLOVER SEED CHALCID (Bruchophagus gibbus) adult populations were up to 35 per 25 sweeps in red clover near Quincy by late June; 75 per 25 sweeps by mid-July. The estimated loss to clover seed in the eastern area was $12,200. CORN LEAF APHID (Rhopalosiphum maidis), though normally rare in Washington, was abundant on barley all season and may have been associated with the first serious cereal yellow dwarf epidemic in the eastern part of the State which occurred in 1958. This species was also collected in the western area on sorghum during the summer and on barley in the fall. ENGLISH GRAIN APHID (Macrosiphum granarium) populations were above normal on winter wheat in Walla Walla and Whitman Counties during April and May and appeared to be the primary source of cereal yellow dwarf epidemic in the eastern part of the State. This aphid dropped to low populations during the rest of the season. Many fields of barley, averaging several hundred acres each, were a complete loss in the eastern area because of cereal yellow dwarf. This disease was also very damaging to oats in the western part of the State as usual.

GRASS PESTS - Severe damage to grass grown for seed in Spokane County by Crambus topiarius and Chionodes psiloptera occurred in unprotected fields during late August and early September. LYGUS BUGS (Lygus elisus and L. hesperus) were more abundant and generally more damaging on alfalfa than in previous years, apparently because of warmer weather conditions. Population peaks occurred in late July (154 per 25 sweeps) and early September (101 per 25 sweeps) in untreated plots in the lower Yakima Valley. PEA APHID (Macrosiphum pisi) population peaks in alfalfa raised for seed in the lower Yakima Valley were 392 per 25 sweeps in late July and 251 per 25 sweeps in mid-August. As usual, this level did not cause observable damage. The heaviest populations in several years, 125 per 100 tips, were on alfalfa in the Walla Walla area during April. SPOTTED ALFALFA APHID (Therioaphis maculata) was recorded for the first time in Washington in Yakima, Benton, Walla Walla and Asotin Counties during September and October. Surveys showed only one field with injury, but no economic loss. Aphids were still living on alfalfa at the end of the year. TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) was moderate to heavy in red clover during May and June near Quincy. SWEETCLOVER WEEVIL (*Sitona cylindricollis*) damaged sweetclover in Whitman County during May. Considerable acreage of sweetclover was plowed up during early June because of damage. Future of the crop for green manure in the eastern area of the State is doubtful.

---

* Cooperators: United States Department of Agriculture, Extension Service, Experiment Station personnel, Field personnel.

Tree Fruit Insects: APPLE APHID (*Aphis pomi*) winter eggs started hatching up to 7 days earlier than usual, about mid-April in the Pullman area. Damaging numbers built up in late June in the Wenatchee area, but were successfully controlled. BLACK PEACH APHID (*Anuraphis persicae-niger*) damaged two-year-old peach trees in the Yakima Valley during late February. WOOLLY APPLE APHID (*Eriosoma lanigerum*) adults and nymphs lived through the winter on apple limbs at Pullman. This pest was less damaging in the central area than it has been for several years. A BRYOBIA MITE (*Bryobia rubrioculus*)* appeared 1 to 2 weeks earlier, April 8, than previously on apples at Pullman. Hot weather kept populations down. EUROPEAN RED MITE (*Panonychus ulmi*) populations were moderate on stone and pome fruits in Yakima and Wenatchee areas during May. Infestations increased to heavy during hot weather of July and caused severe damage in many eastern orchards during August. ERIOPHYID MITES (*Vasates schlechtendali* and *V. fockeui*) were heavy on apple and cherry trees in Asotin County by late July. *V. schlechtendali* was abundant in the Wenatchee area and on nursery stock near Prosser by late season. PEAR LEAF BLISTER MITE (*Eriophyes pyri*) oviposition was observed in the Wenatchee area on March 4. Severe infestations occurred on pears in the Wenatchee and Chelan areas and heavy damage resulted in the Quincy area to young trees. Winter forms began migrating to pear buds in early July, becoming numerous in late August.

CODLING MOTH (*Carpocapsa pomonella*) caused more injury to apples and pears in 1958 than in recent years. The first-brood attack occurred before application of the first cover in many cases. The length of each generation was considerably shortened by hot weather and a nearly complete third generation was obtained in the central area. Bait traps in the Yakima Valley showed more moths flying during mid-summer than during the previous 12 years, twice as many being trapped as in 1957. A low level of resistance to DDT has developed in many areas and was especially noticeable this season when weather conditions were ideal for development. ORIENTAL FRUIT MOTH (*Grapholitha molesta*) was restricted to an area in the Yakima Valley north of the Yakima River between Parker Heights and Zillah. Damage to fruit was negligible and infestations were scarce. A PARASITE (*Macrocentrus ancylivorus*) was released at several locations where oriental fruit moth and strawberry leaf roller existed. PEACH TWIG BORER (*Anarsia lineatella*) larvae damaged tips of peach twigs at Wawawai by April 2. Damage was lighter than in 1957 in the eastern area. PEAR PSYLLA (*Psylla pyricola*) overwintered adults were active on pears during early February, oviposited by early March, but the heavy spring buildup was controlled in most orchards. This pest was not severe during the hot summer; however, some localized populations persisted even after standard treatments in the Yakima and Wenatchee areas during mid-September. SAN JOSE SCALE (*Aspidiotus perniciosus*) caused severe damage to cherry trees in the Wenatchee and Chelan areas. An 80 percent winter survival was recorded in March. Adults of WESTERN CHERRY FRUIT FLY (*Rhagoletis cingulata indifferens*) were first trapped at Prosser on May 16. An untreated check orchard had 33 percent "wormy" fruit at harvest, indicating a potentially bad year; however, controls were successful.

---

* Van Eyndhoven, G. L. 1956. Ent. Bereich. 16:45-46. Also known as *Bryobia arborea* in Canada.

Small Fruit Insects: CYCLAMEN MITE (Steneotarsonemus pallidus) caused injury to strawberry plants in Puyallup area during the early spring and in Clark County by early June. ROSE LEAFHOPPER (Edwardsiana rosae) nymphs were abundant and damaging to blackberry in the Puyallup Valley during May. SHALLOT APHID (Myzus ascalonicus) was recorded in Washington for the first time on strawberries during April. Serious infestations were found in Whatcom, Skagit, Snohomish, Island and Lewis Counties during the spring. None were found in fall surveys. SLUGS (Deroceras reticulatum and Arion ater) heavily damaged strawberries in the Puyallup Valley and in the Vancouver area, seriously reducing yields. STRAWBERRY LEAF ROLLER (Ancylis comptana fragariae) damaged strawberries in Thurston and Cowlitz Counties during July. WEEVILS (Brachyrhinus ovatus, B. sulcatus and B. rugosostriatus) were only a problem in brushy areas where Nemocestes incomptus is prevalent. Control of the latter species continues to be difficult in Whatcom and Snohomish Counties. TWO-SPOTTED SPIDER MITE was active on raspberry by early April in the Puyallup Valley and caused severe damage during August and September in the Puget Sound area.

Truck Crop Insects: ALFALFA LOOPER (Autographa californica) and VARIEGATED CUTWORM (Peridroma margaritosa) adults were more abundant than normal in light traps at Walla Walla during May and June. The worst ALFALFA LOOPER outbreak since 1900 occurred in the western part of the State, and together with VARIEGATED CUTWORM and CABBAGE LOOPER (Trichoplusia ni) caused severe damage to ornamentals and vegetables. CABBAGE LOOPER, usually rare in the southeastern area, developed high populations. Controls were required on peas, spinach and lettuce. BEET ARMYWORM (Laphygma exigua)moth flights were very heavy from the south during September. Total light trap catches at Walla Walla were in the hundreds as compared with 1-12 per season normally; however, very little damage occurred in the southeastern area. CARROT RUST FLY (Psila rosae) resisted all standard controls and caused 160 acres in the Samish Valley to go out of carrot production. Moderate infestations of BEAN APHID (Aphis fabae) developed in the northwestern area by mid-August, but was practically nonexistent in the central area in contrast to their great abundance in 1957. BEET LEAFHOPPER (Circulifer tenellus) spring surveys to determine overwintered females showed a mean of 0.27 per square foot, which was about the same as in 1957. The largest light trap catch of the season was in late June at Walla Walla. There was much less curly top than in 1957. Observed predation by Geocoris of winter females in February may have been helpful. COLORADO POTATO BEETLE (Leptinotarsa decemlineata) winter adults and eggs were unusually abundant in the Columbia Basin and the Yakima Valley. This pest became damaging by late May, severe by late July and completely defoliated large areas of potato fields in the Columbia Basin by early August. More than two broods developed. CORN EARWORM (Heliothis zea) was epidemic in the Yakima Valley. The severest damage in 12 years occurred by late July. Black light trap catches for 4 traps during July, August and September in the Toppenish area were 103,506 compared with 1955-57 average of 6,261. Estimated losses are $300,000 to field corn, $50,000 damage and $20,000 control cost on sweet corn, $5,000 damage and $5,000 control cost to market corn, $2,000 damage and $500 control cost on lima beans. Heavy damage also occurred to sweet corn near Quincy and in the Walla Walla area and as much as 10 percent loss of hop yards was reported throughout the Yakima Valley. Loss to hops was estimated at $5,000 and control costs at $1,000. CORN EARWORM was also a pest of tomatoes, peppers, alfalfa and garden crops not normally attacked in the State. The worst EUROPEAN EARWIG (Forficula auricularia) epidemic since 1955 occurred in the Pullman area. GARDEN SYMPHYLID (Scutigerella immaculata) severely damaged corn in Pacific County in June. White River Valley and Pacific County are new infestation records. GREAT BASIN WIREWORM (Ctenicera pruinina noxia) was at a minimum in the Columbia Basin because fields in truck crops are soil treated. SUGAR-BEET WIREWORM (Limonius californicus) damaged several fields of sugar beet seedlings in the Walla Walla area during the spring. GREEN PEACH APHID (Myzus persicae) eggs started hatching about January 31.

Moderate infestations required treatments on potatoes in Grant County by early July and were more abundant than usual on tomatoes near Yakima. Fall migrants were first observed on peach in October, 7-10 days later than normal. For the first time in more than 10 years, no visible GREEN PEACH APHID damage was observed on potatoes in the central area. A LEAFHOPPER (*Empoasca filamenta*) developed the heaviest population in several years on potatoes in Kittitas County; moderate damage occurred by late August. A WHITEFLY (*Aleyrodes spiraeoides*) was active during most of the winter in the Union Gap area. Moderate populations developed by late August on potatoes, red clover and weeds in Kittitas County and the Columbia Basin and later became extremely abundant on late potatoes. MILLIPEDES severely damaged potato tubers at Medical Lake. ONION MAGGOT (*Hylemya antiqua*) emergence began during February and March in the Walla Walla area. Populations were lower than usual during May and damage to onions by July was negligible. In the Moses Lake area, greater damage to onions was reported. In this area, 40 acres were not harvested, 200 acres with 50-75 percent loss in the field and 40 acres culled at harvest. SEED-CORN MAGGOT (*Hylemya cilicrura*) adults were trapped in slightly greater numbers than in 1957. No damage was observed on onions, spinach, carrots or lettuce. PEA APHID (*Macrosiphum pisi*) eggs started hatching in late January, two weeks earlier than usual in the Walla Walla area. Controls were required for the first time on early peas in the Yakima Valley. In the Walla Walla area, the highest populations since 1954 were recorded on peas during June and July. Most of the processing peas were treated at an estimated cost of $300,000 to $350,000. Heavy populations of PEA WEEVIL (*Bruchus pisorum*) were observed in Whitman and Yakima Counties in May. Controls were applied. TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) caused widespread and heavy damage to beans, potatoes, sweet corn and sugar beets in the Columbia Basin during late July, August and September, especially at Othello. Heavy infestations of WHITE GRUBS (*Phyllophaga* spp.) were found in bean fields near Moses Lake during May.

Forest, Ornamental and Shade Tree Insects: FLEA BEETLES (*Altica* spp.) defoliated trees and shrubs in Lincoln, Asotin and Whitman Counties and throughout the northeastern area. BALSAM WOOLLY APHID (*Chermes piceae*) severely damaged firs, especially Pacific silver fir, in Gifford Pinchot National Forest and St. Helens tree farms. COTTONY MAPLE SCALE (*Pulvinaria vitis*) was abundant on silver maple in Whitman County. ELM LEAF BEETLE (*Galerucella xanthomelaena*) adults severely damaged elms in many eastern localities in late June, July and August. FALL WEBWORM (*Hyphantria cunea*) was common on poplars and peaches in the Wenatchee area during mid-August and slight damage to deciduous trees occurred in Pierce County in August, much earlier than usual. A SPIDER MITE (*Eotetranychus lewisi*) was found on poinsettia in several greenhouses in the Puget Sound area, a new record for the State. Controls were successful, only about $450 damage occurred. NARCISSUS BULB FLY (*Lampetia equestris*) populations were high in 1958. Infestations averaged 59 percent compared with 15 percent in 1955-57. TENT CATERPILLARS (*Malacosoma pluviale* and *M. disstria*) eggs began hatching the first of April in Puget Sound and were 5-10 times as abundant as in 1957 in localized areas of King County by mid-May. SLUGS (*Deroceras reticulatum* and *Arion ater*) damaged lilies, delphiniums and other ornamentals during March in the western area.

Insects Affecting Man and Animals: CATTLE GRUBS (*Hypoderma lineatum* and *H. bovis*) were particularly abundant in southeastern and south central areas. A SARCOPHAGID (*Wohlfahrtia opaca*) began parasitizing mink kits in late May and damage was somewhat heavier than usual on most mink ranches in the Spokane area. Moderate numbers of a MOSQUITO, *Aedes nigromaculis*, were found in Franklin and Benton County irrigation areas during August. Populations of another MOSQUITO, *Culex tarsalis*, were rather high in uncontrolled areas of the Columbia Basin by late summer.

Stored-product Insects: KHAPRA BEETLE (*Trogoderma granarium*) was found in a shipment of rice from Pakistan at a Tacoma dock on September 17. Successful eradication measurers were applied to the ship hold and a railroad shipment that was sent to Vancouver, British Columbia, Canada, by Plant Quarantine and Canadian officials, respectively. Stored-grain insects were more common than in the preceding storage season and damage was probably greater. Common pests were SAW-TOOTHED GRAIN BEETLE (*Oryzaephilus surinamensis*), RED FLOUR BEETLE(*Tribolium castaneum*)and RUSTY GRAIN BEETLE (*Laemophloeus ferrugineus*). The average cost for controlling insects in commercially stored wheat in Washington was estimated at $186,055. Inspections of seed establishments and feed mills showed *Trogoderma glabrum*, *Attagenus piceus*, *Dermestes lardarius* and *Megatoma* sp. apparently more abundant than in previous years.

Beneficial Insects: PAINTED-LADY (*Vanessa cardui*) adults were very abundant during the spring and summer in the eastern area. Larvae helped control Canada thistle, especially where weed killers were used. LADY BEETLES (*Stethorus picipes* and *Hippodamia convergens*) were active in apple orchards in February and together with SYRPHIDS were controlling apple aphids on young trees in the Wenatchee area during July. PREDATORS in red clover seed fields of the Columbia Basin attained population peaks as follows: *Chrysopa* spp., early July; *Nabis alternatus*, mid-July; *Geocoris pallens* and *Hippodamia convergens*,late July; *Orius tristicolor*, early August. PREDATORS in alfalfa seed fields of the lower Yakima Valley reached population peaks as follows: *Chrysopa* spp., uniform with slight peak early August; *Nabis alternatus*,early July; *Geocoris pallens* and *Hippodamia convergens*, late July; *Orius tristicolor*, early August. A PENTATOMID (*Perillus bioculatus*) was observed preying on Colorado potato beetle larvae at Othello, Adams County. PREDACEOUS MITES - *Typhlodromus occidentalis* became very abundant, feeding on two-spotted spider mite and rust mites on tree fruits in the Wenatchee area and *T. fallacis* and *T. marinus* were common on two-spotted spider mite in red clover in the Columbia Basin. *T. cucumeris* reached a peak population the second week of September in the lower Yakima Valley on alfalfa and *Tydeus* sp. peaked in mid-August. A PARASITE (*Aphelinus lapisligni*) parasitized about 25 percent of the clover aphid by late July. Unusually heavy field mouse populations caused up to 80 percent loss of ALKALI BEE (*Nomia melanderi*) larvae in Walla Walla, Benton and Yakima Counties during early spring. BUMBLE BEES (*Bombus* spp.) were moderate in red clover seed fields in Lewis County, best fields having less than one-half as many as in 1957. HONEY BEE (*Apis mellifera*) pollination of trees,fruits and red clover seed was good. A record crop of 5,141,000 pounds of honey was produced in 1958 which is 38 percent greater than the 1947-56 average.

SUMMARY OF INSECT CONDITIONS - 1958

IDAHO

Compiled by A. R. Gittins

Highlights: ALFALFA WEEVIL damage was generally considerably below that of 1957. Of approximately 690,781 acres of alfalfa grown for hay in 1958, it is estimated that some 636,778 acres were infested with a 19.5 percent loss, valued at $1,437,716. BEET LEAFHOPPER continued to be a major problem due to transmission of curly top virus to sugar beets and tomatoes. Incidence of the virus was the highest yet recorded in certain eastern counties. CORN EARWORM was considerably above average in 1958, being especially heavy in the Boise Valley. DOUGLAS-FIR BEETLE populations were considerably above those of 1957. ONION MAGGOT continued as a problem in the Boise Valley with fairly severe infestations in local areas. SPOTTED ALFALFA APHID was collected in the State in mid-October when adults were taken in alfalfa fields in Nez Perce County.

WESTERN CHERRY FRUIT FLY spread into Canyon and Gem Counties during the summer for the first time.

Cereal and Forage Insects: ALFALFA WEEVIL (Hypera postica) egg masses first appeared in early April. Larval populations were generally low during April and May with light damage to first-cutting alfalfa and increased during late May, with heavy damage in some untreated fields near Grangeville. Damage was generally much below that of 1957. Large numbers of ALFALFA LOOPER (Autographa californica) adults appeared in Caldwell during mid-May. Larvae became generally abundant on clovers in Latah, Clearwater, Lewis, Nez Perce and Idaho Counties during early June. Light damage occurred in northern Kootenai Valley area mint fields during early July. Adults of a CLOVER BUD CATERPILLAR (Grapholitha conversana) became active by May 2 in northern areas. By early June, infestations had spread over a wide area bounded by Grangeville, Deary, Lewiston and Stites. Severe damage to over 700 acres of clover near Grangeville caused 90 percent reduction in seed yields. Half-grown larvae of CLOVER LEAF WEEVIL (Hypera punctata) were generally distributed in southwestern alfalfa and red clover fields by early April. Damage was moderate to alfalfa near Weiser and larval feeding damage in red clover was severe near Kendrick in late April. CLOVER ROOT CURCULIO (Sitona hispidula) adults were active in most alfalfa from Jerome to Weiser during April, but became abundant in this area and in Latah and Nez Perce Counties later; however, populations declined rapidly. Larval feeding damage was generally moderate.

CLOVER SEED WEEVIL (Miccotrogus picirostris) adults were extremely abundant (exceeding 50 per sweep) in clover-grass pastures near Chilco, Kootenai County, but averaged 5-10 per sweep elsewhere in northern counties during May. CORN EARWORM (Heliothis zea) infestations were considerably above those of 1957, especially in the Boise Valley. Approximately 20 percent of commercial sweet corn ears were infested during late summer in southwestern areas. Some home gardens had up to 100 percent ear infestation. CUTWORMS caused considerable damage to young corn in the Melba area during early June. Larval populations were light to heavy in southern alfalfa and clover fields. ENGLISH GRAIN APHID (Macrosiphum granarium) populations were low in spring-sown grain fields of Bonner and Boundary Counties, apparently due to very high predator activity. Heavy damage occurred to some late-planted barley in Latah, Nez Perce and Lewis Counties. Approximately 75 per head on spring-planted wheat were counted in Lewis County, but this level dropped drastically by mid-July. Late barley in Idaho Falls was severely infested during early August. Approximately 71,580 acres were treated for GRASSHOPPERS during 1958. Populations were generally below those of 1957 with less damage. Melanoplus mexicanus and M. bivittatus were the most important species. LYGUS BUG adults were active in most alfalfa during early April, but overwintering populations were very low in southern counties during late April. Nymphs averaged as high as 20 per sweep in northern Canyon County red clover during early May. Counts were also high in northern counties. Populations increased in alfalfa seed fields in western Franklin County and nymphal and adult populations remained high throughout southern counties during late July and August. A very large nymphal population (up to 120 per sweep) developed in third-cutting alfalfa in Canyon County during early September. PEA APHID (Macrosiphum pisi) adults became active in alfalfa fields as early as March 28 in Canyon County, but populations were generally low during April and early May throughout the State, apparently due to predators. Colonization began in early May in southern alfalfa fields. Populations were far below normal in northern alfalfa fields during May, but increased in mid-June. Populations again declined in late July in northern counties due to buildup of predators and a fungus disease. A very large population developed in an alfalfa seed field in Canyon County during early August with counts of 2,630-19,450 per sweep and another very heavy population developed as late as October 24 in an alfalfa field in Hagerman Valley near Gooding. SPOTTED ALFALFA APHID (Therioaphis maculata) was collected during mid-October in alfalfa fields in Nez Perce County south and east of Lewiston. Populations were generally low.

Fruit Insects: APPLE AND THORN SKELETONIZER (Anthophila pariana) was very heavy in apple orchards in Bonner and Boundary Counties, some trees showing one-third of foliage skeletonized during early June. BLACK CHERRY APHID (Myzus cerasi) infestations were generally low and caused little damage throughout the State. First record for BLACK CHERRY FRUIT FLY (Rhagoletis fausta) in the Twin Falls area was obtained during early June. CODLING MOTH (Carpocapsa pomonella) was unusually heavy in the Moscow area and normal treatments did not prevent infestations. Little damage was reported from other areas in the State. Unsprayed apple trees suffered extensive terminal bud damage from EYE-SPOTTED BUD MOTH (Spilonota ocellana) in the Moscow area. A few infestations of FOREST TENT CATERPILLAR (Malacosoma disstria) developed on fruit trees in the Sandpoint area during early June. FRUIT TREE LEAF ROLLER (Archips argyrospila) infestations were generally low throughout the State. GREEN PEACH APHID (Myzus persicae) populations greatly exceeded those of 1957 in the Idaho Falls area with 15-40 percent of trees infested. Elsewhere, populations were more normal. A heavy infestation of IMPORTED CURRANTWORM (Nematus ribesii) developed on gooseberries in gardens at Parma and caused about two-thirds defoliation. Severe infestations of PEAR LEAF BLISTER MITE (Eriophyes pyri) developed on pears in several areas where dormant controls were omitted. Infestations were generally higher throughout the State than in previous years. Approximately 90 percent of the leaves were infested in one orchard near Fruitland. SAN JOSE SCALE (Aspidiotus perniciosus) was relatively unimportant except for one heavy infestation that caused considerable damage to cherry trees in the Caldwell area. TWO-SPOTTED SPIDER MITE (Tetranychus telarius) caused moderate to severe damage to small fruits in southern areas. Large populations developed on apple in the Idaho Falls area. WALNUT APHID (Chromaphis juglandicola) populations were extremely large on black walnut in Parma and Payette during mid-July. WESTERN CHERRY FRUIT FLY (Rhagoletis cingulata indifferens) was recorded for the first time from Canyon and Gem Counties, during 1958. Approximately 25-30 percent of cherries examined in Canyon County were "wormy." First adults were taken in the Weiser area May 20 and strong populations had developed by mid-June. Backyard trees in Nampa were generally infested. YELLOW-NECKED CATERPILLAR (Datana ministra) caused moderate defoliation of apple trees in Boise, Lewiston and Moscow areas.

Truck Crop Insects: ASPARAGUS BEETLE (Crioceris asparagi) adults appeared in large numbers in commercial asparagus fields during late May in Owyhee County and large populations developed in Twin Falls area. Damage was minor. BEET LEAFHOPPER (Circulifer tenellus) populations remained generally high throughout the summer. Large migration of adults reached the south central area during May, apparently borne by winds from southern Nevada breeding areas. Populations in sugar beet fields in western Twin Falls increased 100-fold May 19-23, doubled May 23-26 and averaged over 13 per square foot by the end of May. Adverse weather conditions during early June greatly reduced adult populations in Canyon County from 50 per plant to 3 per plant. Populations in south central Idaho remained stable during June but increased greatly during July as nymphs appeared. Incidence of curly top on sugar beets and tomatoes was highest ever reported from Franklin County. Summer brood matured during late July in south central counties. Populations remained high during August with fields of sugar beets in Franklin, Minidoka and Cassia Counties showing 3 percent incidence of curly top. Studies made in bean fields during July near Rupert, Burley, Twin Falls and Jerome showed virus incidence ranging 0-44 percent, with an over-all average of 6.6 percent. Beans planted prior to May 28 showed higher damage than those planted later. Some bean fields in Twin Falls area were plowed up due to curly top. First outbreak of BEET WEBWORM (Loxostege sticticalis) occurred in Franklin County during early June and rapidly spread north to Rigby and west to Twin Falls. All stages were present, with adults predominating in the northern sector of infestation. By early July, beet fields near St. Anthony showed considerable feeding damage. In general, damage caused by first-generation larvae was considerably under that anticipated even though counts were far above normal. Second-generation feeding damage was relatively minor. CABBAGE SEEDPOD WEEVIL (Ceutorhynchus assimilis)overwintering adults became active by late April in Latah and Nez Perce Counties. Damage was relatively minor during the summer. COLORADO POTATO BEETLE (Leptinotarsa decemlineata) adults first appeared in mid-May in the Moscow area. Activity was rather general throughout south central and eastern counties during early June. In general, activity was above that of previous few years, but damage was spotted and relatively light except where controls were neglected. GREEN PEACH APHID (Myzus persicae) infestations of commercial potato fields in Idaho Falls area began in early August with an average of one per 8 leaves. Later in the month light infestations developed in Butte, Caribou and Fremont Counties. Caribou County populations ran as high as three per leaf. Potato seed fields from the Grace-Ashton-Teton Basin area were infested by early September. SYRPHID FLY populations in the Ashton area partially controlled infestations later in September.

Populations of a LEAFHOPPER (Empoasca filamenta) gradually increased as summer advanced with greatest numbers in commercial potato fields in the eastern area. Relatively few reports of severe feeding damage were received. Severe larval-feeding damage by IMPORTED CABBAGEWORM (Pieris rapae) occurred in commercial cabbage in Franklin County during August, with moderate damage elsewhere. LESSER BULB FLY (Eumerus tuberculatus) larvae infested overwintering onions as early as mid-March, but populations generally remained low. ONION MAGGOT (Hylemya antiqua) adults became active in southwestern areas during mid-March. Emergence increased, and by late April populations reached economic levels in certain southwestern areas. An occasional field in the southwestern area showed severe damage. Damage in the Twin Falls area was approximately 30 percent and many fields in this area were plowed up; heavy reduction of stands occurred. In general, however, 1958 populations were below those of 1957 with less damage occurring. POTATO APHID (Macrosiphum solanifolii) populations were generally higher in 1958 than in previous years, but increased activity of predators and parasites reduced populations by late August so that damage was relatively moderate. PEA APHID (Macrosiphum pisi) became active during late March, but was generally low during April and May due to moderately high predator populations. Populations in Nez Perce and Latah Counties were far lower during early June than in 1957, but built up rapidly during late June and early July on peas and lentils and again dropped during July due to a fungus disease and predators. RED-BACKED CUTWORM (Euxoa ochrogaster) caused moderate damage to sugar beets in eastern Jerome County, with sufficient defoliation to require control during mid-May. SPINACH LEAF MINER (Pegomya hyoscyami) became abundant in all sugar beet fields checked from Twin Falls eastward by late June, with extensive damage to lower leaves. An estimated 50 percent of eggs were viable. SPOTTED ASPARAGUS BEETLE (Crioceris duodecimpunctata) caused considerable damage to asparagus shoots in home gardens in Moscow and Twin Falls. SUGAR-BEET ROOT MAGGOT (Tetanops myopaeformis) caused moderate damage to sugar beet fields near St. Anthony. TWO-SPOTTED SPIDER MITE (Tetranychus telarius) caused minor to heavy damage to potato fields near Idaho Falls and caused moderate damage to pole beans in Franklin County. WESTERN BLACK FLEA BEETLE (Phyllotreta pusilla) adults were severe on beets and radishes in Minidoka and Cassia Counties, with heavy damage in some fields during mid-May. High, above normal, populations continued through June in potato fields in southeastern counties. WESTERN POTATO FLEA BEETLE (Epitrix subcrinita) populations were moderate on early-planted potatoes in Custer, Butte, Fremont, Bingham and Lemhi Counties during June, but damage was not severe except in Custer County. STRAWBERRY LEAF ROLLER (Ancylis comptana fragariae) adults became common in commercial strawberry fields in Canyon County during mid-May and caused heavy damage to garden plantings near Weiser and Aberdeen. STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) was extremely heavy in a field near Parma, affecting approximately 80 percent of the plants. Damage was above average in the Preston area.

Forest, Shade Tree and Ornamental Insects: ALDER FLEA BEETLE (Altica ambiens) was very widely distributed throughout northern areas and caused heavy defoliation of alder and various species of willow. An ALDER SAWFLY caused heavy defoliation of alders from St. Maries north to the Rathdrum Prairie area during July and August. COTTONY MAPLE SCALE (Pulvinaria innumerabilis) crawlers appeared in Boise during late May and strong infestations developed as summer progressed. A very severe infestation appeared in mid-June in the Sandpoint area and at Twin Falls. Maples, black locust and hawthorns were attacked in Twin Falls. An infestation developed on grapes during early July at Moscow. DOUGLAS-FIR BEETLE (Dendroctonus pseudotsugae) numbers increased considerably over 1957, with a large buildup in the St. Joe River drainage above Avery. Damage to Douglas-fir was several times that of the past two years in the drainage area of the North Fork of the Payette River. A widespread infestation of DOUGLAS-FIR TUSSOCK MOTH (Hemerocampa pseudotsugata) developed during early June in Owyhee County. ELM LEAF BEETLE (Galerucella xanthomelaena) adults left hibernation quarters in large numbers during late April in Canyon County and became quite active in Payette and Washington Counties by mid-May. Hatching began in the Parma area during early June and larvae became extremely abundant by the middle of the month. Second generation appeared during mid-July in Parma. Heavy defoliation of new leaves by second-generation larvae occurred by late June in Canyon County after defoliation by first-generation larvae. Some elms in Parma were so severely attacked that it appeared they would not recover. Infestation was also extremely severe in the Twin Falls area. Second-generation larvae migrated from foliage during late August and early September in the City of Twin Falls. Severe infestations of EUROPEAN ELM SCALE (Gossyparia spuria) developed on elms in the Preston area during June. FALL WEBWORM (Hyphantria cunea)caused severe defoliation of chokecherries in Clearwater and Lemhi Counties during July and large populations developed on locust, poplars and cherries near Whitebird during August. Heavy defoliation of wild cherries occurred throughout northern parts of the State. A widespread infestation of LARCH CASEBEARER (Coleophora laricella) developed between St. Maries and Sandpoint during early June, with adults emerging in mid-June in Benewah County. The outbreak in northern Idaho covered 100 square miles and spread northward. A small infestation of MAPLE BLADDER-GALL MITE (Vasates quadripedes) was first recorded at Sandpoint on maples. MOUNTAIN PINE BEETLE (Dendroctonus monticolae) caused considerable damage to western white pine in the Clearwater National Forest. OYSTER-SHELL SCALE (Lepidosaphes ulmi) infestation was severe on ash at Twin Falls and moderate on golden willow at Idaho Falls. PINE NEEDLE SCALE (Phenacaspis pinifoliae) was moderate on ponderosa pine in the Moscow area. ROSE LEAF BEETLE (Nodonata puncticollis) caused moderate foliage skeletonization on willows and related trees in scattered northern areas. ROSE APHID (Macrosiphum rosae) colonization began on roses in the Twin Falls area as early as mid-April before leaf buds were open. By late May, roses in the city were quite heavily infested. A widespread infestation of a PINE SAWFLY (Neodiprion abietis complex) developed in Douglas-fir stands in many areas of Owyhee County during June. An active infestation of SPRUCE BUDWORM (Choristoneura fumiferana) persisted in grand fir over an area of 89,000 acres of State and private forestland south of Lewiston. The population increased sharply in 1958. WESTERN PINE BEETLE (Dendroctonus brevicomis) became quite abundant on ponderosa pine in Camp Creek area of Valley County.

Insects Affecting Man and Animals: BLACK FLIES were fairly abundant and annoying in Moscow and Idaho Falls areas. DEER FLIES (Chrysops spp.) were abundant and annoying near Blackfoot, Bingham County, during late June and were numerous during early August in localized areas of Bonneville County. HOUSE FLY (Musca domestica) early fall populations were considerably above average in Moscow and other cities. COMMON CATTLE GRUB (Hypoderma lineatum) adults became very common in southeastern and southwestern areas during June. HORN FLY (Siphona irritans) was abundant during August in Franklin County, with moderate infestations of cattle and horses. Very heavy deposition of eggs on horses by HORSE BOT FLY (Gasterophilus intestinalis) occurred near Parma during October.

MOSQUITOES - Late spring populations of *Aedes implicatus* were greatly below those of previous years in northern counties. *Culex* spp. became very abundant and highly annoying around Bonners Ferry and in scattered localities in Latah County during June and July in the Little Lost River Valley and in the eastern end of the Boise Valley. One moderate infestation of SHEEP BOT FLY (*Oestrus ovis*) in sheep occurred near Preston during early August. A heavy infestation of SWALLOW BUG (*Oeciacus vicarius*) in a sawmill near Bovill, Latah County, resulted in several workers being bitten during late June.

Stored-product Insects: FLAT GRAIN BEETLE (*Laemophloeus pusillus*), RED FLOUR BEETLE (*Tribolium castaneum*) and SAW-TOOTHED GRAIN BEETLE (*Oryzaephilus surinamensis*) were the most abundant and widespread species in northern grain storages. There were no reports of KHAPRA BEETLE (*Trogoderma granarium*) occurrence in the State during 1958. A heavy infestation of MEAL MOTH (*Pyralis farinalis*) in farm-stored feed grain was reported from the Donnelly area during early September. A TENEBRIONID (*Alphitobius laevigatus*) was found in pea screenings in a seed warehouse in Twin Falls, a new State record.

Household Insects: Infestations of DERMESTIDS (*Anthrenus* spp.) were reported from homes in Moscow and Coeur d'Alene during April. Scattered populations of CLOVER MITE occurred in homes in southern Idaho during April and early May. EUROPEAN EARWIG (*Forficula auricularia*) populations were about average with those of the past few years. There was one report of SUN SPIDERS (Solpugida) entering homes in Bingham and Power Counties during late September.

Beneficial Insects: A PARASITE (*Bathyplectis curculionis*) of alfalfa weevil averaged 80 per 30 sweeps in alfalfa fields near Parmer during early May and adults were generally common to abundant in most fields sampled in southern counties. Populations reached 30 per sweep in some Canyon County fields, but dropped somewhat as summer progressed. Alfalfa weevil larvae averaged 6 per 2 sweeps in Parma area fields. Adults of an ALKALI BEE (*Nomia melanderi*) emerged from nesting sites in the Homedale area during late May. Populations were generally more abundant than in previous years. The ALKALI BEE PARASITE (*Zodion obliquefasciatum*) was collected for the first time in Idaho. A BOMBYLIID (*Heterostylum robustum*) remained the most important parasite of nesting sites. Populations of BIG-EYED BUGS (*Geocoris* spp.) in southern clover and alfalfa fields ranged 2-5 per ten sweeps during late April and increased in many fields to 2 per sweep by late June and 3-6 by mid-August. Populations were about normal. A KLAMATHWEED BEETLE (*Chrysolina gemellata*) continued to successfully control the weed in the Salmon and Clearwater areas during 1958, but not in more northern counties, although adult populations during early June were very high in the Bonners Ferry and Moyie Springs areas. A ROOT BORER (*Agrilus hyperici*) - No evidence of Klamathweed reduction was observed during 1958. A PREDACEOUS MITE (*Typhlodromus cucumeris*) successfully controlled two-spotted spider mite in a few red clover fields in northern Canyon County. Other PREDACEOUS INSECTS varied in abundance over the State, but generally were at normal levels during 1958.

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division
Washington 25, D. C.

February 27, 1959

To: Entomologists and Other Cooperators

Subject: Insect Detection

The importance of plant pest detection, especially insect detection, has long been recognized. In recent years biological warfare aspects of the problem have added to its status.

Many of our most destructive crop and forest pests are species that have been introduced from foreign countries over the years. An example is the European corn borer. This insect caused an estimated loss of $158,000,000 to corn growers in 1957. An appropriation of that magnitude would support all cooperative State-Federal plant pest control programs, as currently operated, for a period of about eight years. This is only one example. As you know, there are many costly problems in our program work such as pink bollworm, gypsy moth, imported fire ant, Japanese beetle, white-fringed beetle, and others. If any of these pests had been discovered when the infestations were incipient or local, they probably could have been eradicated and the costs cut or eliminated entirely. Certainly, the chances of eradicating such outbreaks today are far better than heretofore. This is possible through the availability of low-cost insecticides and improved methods of application.

Success against a pest such as the Mediterranean fruit fly has led to optimism in plant pest control and regulatory agencies. They believe that if a pest can be found soon enough it can be eradicated, thereby saving American agriculture untold millions in losses and control costs.

Detection is obviously the starting point in an eradication program. Recognizing this, several plant pest regulatory and other agricultural agencies, including the Western Plant Board, National Plant Board, and the National Association of State Departments of Agriculture have gone on record requesting increased emphasis on plant pest detection. They have asked for a cooperative undertaking coordinated and directed at the national level. The Plant Pest Control Division has recognized this need by establishing a position within Survey and Detection Operations, devoted entirely to the detection phase of survey. Mr. Joseph W. Gentry, Assistant to the Chief Staff Officer, will be in charge of the program.

2-Entomologists and Other Cooperators

This work involves the initiation and operation of a specific nationwide program, in cooperation with the states and other appropriate organizations, to detect any introduced insect pests not now known to occur in the United States as well as economically important insects not known to occur in certain areas of the United States. By increased utilization of existing survey facilities, by coordinating detection efforts now in operation in many entomological agencies and by increasing the general awareness of the importance of plant pests not known to occur in this country, it is felt that insect detection will become a more effective and useful tool in plant pest control work. To accomplish this goal we must include a little more detection effort in our busy daily routines.

The combined efforts of many cooperators will insure the formation of a countrywide detection effort that will produce results. We urge each of you to participate in this important undertaking. As the plans are developed, you will be advised through correspondence, personal contracts, or other media.

Very truly yours,

E. D. Burgess

E. D. Burgess
Director

UNITED STATES DEPARTMENT OF AGRICULTURE
WASHINGTON 25, D. C.
Official Business

Penalty for Private Use to Avoid
Payment of Postage, $300